

REMARKS

This amendment is in response the Office Action mailed on June 3, 2004. Claims 1-11, 13-16, 18-25, 27-29, 31-39 and 41 are rejected under 35 U.S.C. § 103(a) from Bunin et al. U.S. Patent No. 5,907,651 in view of Yanagawa et al. U.S. Patent No. 5,297,228. In addition, claims 12 and 26 are rejected under 35 U.S.C. §103(a) from Bunin and Yangawa in view of Applicants Admitted Prior Art (AAPA).

The Examiner maintained the above rejections from the prior Office Action, which were sent on November 3, 2004.

It is respectfully submitted that there are elements of Applicant's invention that are not taught, suggested or implied by Bunin either singly or in combination with the other cited references. In particular, in response to the Examiner's rejection of the claims under 35 U.S.C. § 103(a) from Bunin et al., claim 1 now recites, *inter alia*, "the pin passages and projecting pins being precisely sized to eliminate movement between the pin passages and projecting pins when the projecting pins are inserted into the pin passages." Claim 21 now recites, *inter alia*, "predetermined alignment patterns etched into the substrate body as accurately as the crystal structure of the substrate material." Finally, claim 33 now recites, *inter alia*, "forming a wafer having a plurality of aligned respective channels chemically etched therein as accurately as the crystal structure of the substrate material." Support for the claim amendments may be found on page 11, line 22 to page 12, line 2 and page 10, lines 5-11 of Applicant's specification.

We categorically disagree with the Examiner's rejection of the notion that Bunin teaches away from Applicant's invention. However, to more clearly point out the difference, Applicants have amended the claim as shown above.

Accordingly, it is clear that Bunin teaches and claims an alignment bushing placed in the pin passage and an adhesive surrounding the alignment bushing (col. 7, lines 13-35) and explicitly states that the "Bushings 100 will move with the alignment posts into passages 60." This movement is precisely the thing that Applicants seek to avoid. As such, Applicant's invention does away completely with bushings and adhesives in the pin passage area and uses

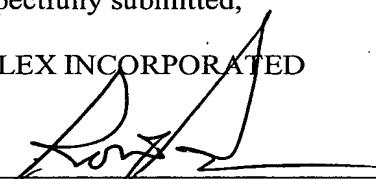
precise sizing of the pins and the passageways to ensure that the pins sit securely within the passageways. By doing so, any type of movement or shifting of the pins is eliminated.

In addition, there is no teaching or suggestion in the cited references that the alignment channels or patterns are etched into the substrate body as accurately as the crystal structure of the substrate material. As explained in the previous office action, etching is a highly precise method of chemically forming channels in the substrate, which is as precise as the crystalline structure of the substrate itself. In contrast, the cited art (Yanagawa) discusses cutting grooves or channels into the substrate (col. 7, lines 30-55). This is a relatively highly inaccurate way of forming channels and does not follow the crystal structure of the substrate.

Based on the above claim amendments and remarks, reconsideration and withdrawal of the final rejection is respectfully requested. Furthermore, this application is believed to now be in condition for allowance upon entry of the presently amended claims.

Respectfully submitted,

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Date: 11-16-2004